

FUTURE SCIENCE FICTION

No. 33

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In the sciences, definitions are exact and necessary. In the arts, definition in relation to the nature of the art are necessarily inexact. They are more in the nature of directive than repertorial statements; they try to explain what an art should be and to convince the reader that whatever does not conform to the definition cannot be recognized as an example of the art-form under discussion.

WANTED: A DEFINITION FOR SCIENCE FICTION

by Bob
Olsen

This sounds like a hopeless task, but it isn't necessarily so. Such definitions, when accepted by writers of particular type of fiction, for example, can result in an understanding of the art and an elevation of its standards. Perfection is impossible as an achievement; but the effort toward it isn't wasted, when it results in improvement, regardless of how far the improvement may be from the stated goal.

SINCE I have been a reader of science fiction for over six decades, and since more than a score of my stories were published in the world's first science fiction magazine about a quarter of a century ago, I used to think I knew what science fiction is. Recently, however, after eval-

Here's a discussion of a much-debated question by one of the early "name" authors of the old *Amazing Stories*. Oldtimers, who were reading science fiction in 1927, will remember that the late Bob Olsen was one of the first to make a fictional exploration of the so-called 4th Dimension.

uating radio, television, motion picture and latter-day magazine stories which claim to be science fiction, I began to wonder if I really know as much about the subject as I thought I did. In order to set myself straight—approximately three decades after I wrote my first science fiction story—I undertook to find an authoritative answer to the question: "What is science fiction?"

After several days of research, I was astonished to learn that nobody—and I do mean *Nobody* (as Gimbel or Macy might have said)—seems to know what science fiction is. I have several good dictionaries, including the latest "*American College Dictionary*" (Random House) which my son's English professor recommended; I also have four encyclopedias, including the latest revised edition of the "*Columbia Encyclopedia*," and Benet's four-volume "*Reader's Encyclopedia*." None of these contains a definition of science fiction. So I went to the Lawndale branch of the Los Angeles County Public Library which, though small, is well equipped with reference books—such as the latest edition of *Webster's Unabridged Dictionary*, *Collier's Encyclopedia* and the *Encyclopedia Americana*.

Believe it or not, all these reference books ignore com-

pletely the existence of science fiction and the need for defining it. Under similar circumstances, a normal person would probably have given up and concluded, as the hillbilly did when he saw a kangaroo: "There ain't no such animule." However, I happen to be abnormally persistent. (My wife calls it "Norse stubbornness.") I figured that there *must* be some authoritative definition of a phenomenon which is becoming familiar to nearly everyone between the ages of 3 and 103. Surely, somebody in authority knows what science fiction really is!

Our local librarian is an accommodating lady, so I stated my problem to her and asked for help. She sent a "Mayday" message to the well-stocked, well-staffed Los Angeles County Central Public Library, whose librarians delight in helping those who hunger for knowledge. When they sent me a report about two weeks later, they confessed with astonishment that they also were stumped. No lexicographer or encyclopedist seems to have taken the trouble to define a subject which has been on all tongues, and has been extensively publicized by newspapers, magazines, comic books, radio, television, motion pictures and what-have-you ever since Orson Welles' broadcast

of his version of H. G. Wells' "War Of The Worlds," in October, 1938—a portrayal so convincing that thousands of radio listeners behaved childishly.

ALTHOUGH the librarians were not able to unearth an *authoritative* definition of science fiction, they sent me several books which attempt to explain the nature, scope, purpose, etc., etc. of science fiction. I was already familiar with most of these books, but since I did not have all of them in my library, I was glad to get them so I could give myself a refresher course in a subject concerning which I apparently was somewhat ignorant—or at least out-of-date. Before doing that, however, I played my trump card which I had been holding in reserve—my ace in the hole, if you will pardon my metaphoric mixing of card games. I telephoned to none other than Mr. Science Fiction himself—in person. I reasoned that if a definition of science fiction exists anywhere in the solar system, it must be in the most nearly complete selection of science fiction in the world—which, as nearly every science fiction fan knows, is owned by the one and only Forrest J. Ackerman. It was inevitable that "4e", as his friends call him, did not

disappoint me. He said, "Bob, if my arm was two feet longer I could reach out and get a book containing a definition of science fiction. Hold the line a sec." At the end of the sec. he dictated the following information: "*Avon Webster English Dictionary and Pocket Library of Encyclopedic Information*, Published May, 1952. Page 342: *sci-ence-fic-tion*: fantastic stories based on science."

I laughed and said, "That's like defining morality as 'wrong based on right.' Since science is essentially rational, and deals with fact, while fantasy is irrational, and deals with unrealities, the terms *science* and *fantasy* are mutually contradictory." Ackerman agreed that the Avon definition is unsatisfactory, but stated that it is the only one he knows about. So, in the hope of uncovering pay dirt, I dug into the books which the County Library had sent me. I found several definitions, to be sure; but most of them were even less accurate and more fanciful than the one in the lexicon with the extravagant title.

THAT LED to a realization that an illegitimate, incompatible, and unholy alliance seems to exist between *Science* and *Fantasy*—at least in the

minds of some readers, writers and editors. This is exemplified by the titles of some of the magazines in the "Science Fiction" category. Of the 58 publications issued between 1926 and 1950, which Donald Day listed in his "*Index to Science Fiction*" twelve included the words "Fantasy" or "Fantastic" in their titles. Two others *Miracle Stories* and *Uncanny Stories* had similar connotations—which means that 26% of these magazines which were classified as science fiction actually were labeled "Fantasy." The same mixture—or rather emulsion, since oil and water do not mix—of science and fantasy seems to be prevalent also in science fiction fandom. The oldest science fiction fan club in the world is called the "Los Angeles Science Fantasy Society," and James Taurasi's publication, advertised as the "World's Oldest Science-Fiction Newspaper," carries the name *Fantasy Times* on its masthead.

Since I had a scientific education, and taught mathematics, physics and chemistry for a decade after I obtained my Ph. D. and M. A. degrees from Brown University, I have always found it hard to understand why *science* should ever be coupled with *fantasy*, which is the direct antithesis of science. Let anyone who doubts

this take a look at the following definitions which are from the *American College Dictionary*: "SCIENCE: 1. A branch of knowledge or study dealing with a body of facts or truths systematically arranged and showing the operation of natural laws. Example, *the mathematical sciences*. 2. Systematic knowledge of the physical and material world. Knowledge gained through systematic study.

"FANTASY: 1. Imagination, especially when unrestrained. 2. The forming of grotesque mental images. 3. (Psychology) a daydream. 4. Hallucination. 5. Supposition based on no solid foundation."

THIS CONFUSION between the two mutually contradictory categories seems to exist, not only in the minds of some publishers and some readers, but also in the ideas which some script-writers and producers have on the subject. It is obvious that many of the so-called "science fiction" movies, TV shows, and radio broadcasts are pure fantasy and have no scientific basis whatever. That some authors of magazine stories are similarly confused is revealed by one of the books which the County Library sent to me, namely the "*Science Fiction Handbook*," by L. Sprague de Camp, who

is one of the most popular of the latter-day contributors to so-called "Science Fiction" magazines. De Camp devotes several pages of his book to discussing various definitions of science fiction. It is apparent that he himself regards *science fiction* and *fantasy* as synonymous. At any rate, he groups them together in a category which he calls "Imaginative Fiction" as distinguished from "Realistic Fiction." In support of this, he quotes Fletcher Pratt, (who collaborated with de Camp in writing "The Better Mouse Trap," which was published in the December 1950, issue of *Magazine Of Fantasy and Science Fiction*). Pratt defined *Imaginative or Fantastic Fiction* thus: "A story that could not have happened, contrasted with *Realistic Fiction* that could happen, even if it did not. This puts all stories of the future in the category of imaginative fiction, as they could not have happened."

Apparently de Camp agrees with Pratt. He sums up his discussion of the definitions of science fiction thus: "*In the fiction of the modern Western World there is a group of stories that could not have happened, based on assumptions contrary to everyday experience, often highly fanciful and often laid in settings re-*

mote in time and space. These stories we have decided to call by the general term 'Imaginative Fiction.'"

Restricting the term "imaginative fiction" to narratives which are impossible is about as fantastic, absurd and unauthentic as some so-called "science fiction." Is not all fiction imaginative? Let's see what the lexicographers say:

"FICTION: the branch of literature comprising works of imaginative narration."

Why then should "we" (meaning Messrs de Camp and Pratt), decide to call one kind of fiction imaginative and another kind realistic?

Incidentally, although I do not agree with L. Sprague de Camp's definition of science fiction, I regard him as a talented writer of science fiction as well as fantasy. He did an especially good job in compiling his "*Science Fiction Handbook*," which I heartily recommend to anyone interested in fantasy and/or science fiction.

AS TO THE distinction between science fiction and fantasy, magazine editor John W. Campbell, Jr., who contributed authentic science fiction to early issues of Gernsback's *Amazing Stories*, explained it thus: "It is *science fiction* if the writer thinks it could hap-

pen, *fantasy* if he thinks it could not." I agree that the cardinal difference between science fiction and fantasy is that the former should be plausible and the latter impossible; but I do not think it is enough for the author alone to believe his story could happen. He must write it so plausibly and convincingly that every reader will share his belief. I do not see how an author can possibly do that unless he has a thorough grounding in mathematics and science to begin with, any more than a draftsman can design an airplane wing without knowing anything about aeronautics. This, of course, is just one man's opinion, which probably will be challenged by many readers, editors and writers.

In his "Handbook," L. Sprague de Camp says: "*I am often asked, 'Must one have a scientific education to write science fiction? The answer is the same as for the question whether one has to be crazy: 'No, but it helps.'*" De Camp adds that some authors of science fiction did have scientific educations, but that "*others picked up what science they needed by reading, observation and conversation.*" That apparently accounts for many of the numerous bobbles and blunders which repeatedly crop up in some of the latter-day maga-

zines labelled 'Science Fiction."

Publishing absurd assumptions in pseudoscientific, or "falsely named" stories, where such nonsense masquerades as "science," can do a lot of harm. Such fakery can deceive young, or mentally-immature readers into believing errors which will be hard to unlearn if they ever study orthodox science. That probably was what M.I.T. Professor Norbert Weiner, the founder of cybernetics, had in mind when, in his recently published autobiography, "*I Am A Mathematician*," he called science fiction "a pernicious article."

To anyone such as Professor Weiner, who does have a scientific education, it is apparent that the writers of some science fiction stories lack scientific knowledge and depended only on information, (or misinformation), which they "picked up by reading, observation and conversation." No science can be mastered without many hours of laboratory experimentation—or field work, or close observation of nature—under expert supervision. Clear understanding of exact sciences, such as physics, chemistry and astronomy, on which so many science fiction plots depend, cannot be obtained without thorough training in mathematics, which also requires

competent instruction, and can hardly be "picked up."

IT IS WELL-KNOWN that the really great masters of science fiction did have scientific educations. Jules Verne—who originated science fiction, as the term is used today—was a science scholar, especially in the sciences of geography and oceanography. The father of English science fiction, H. G. Wells, whose career was strongly influenced by the great scientist, T. H. Huxley, taught science before he started to write science fiction. Olaf Stapledon, who is generally rated second to Wells in the science fiction field, was a lecturer at Liverpool University. Hugo Gernsback, the undisputed father of science fiction in the United States, and the founder of the world's first science fiction magazine, had a thorough scientific education in Germany before he came to America. It is significant that many of the predictions made in stories by Verne, Wells, Stapledon, Gernsback and the earlier, better-educated contributors to *Amazing Stories*—ideas which were regarded as fantastic when they were first published—became commonplace realities while their authors were still alive.

In his own writings and in his choice of material for

Amazing Stories when he was editing it, Hugo Gernsback stressed the *educational* superiority of science fiction over ordinary literature. As de Camp expressed it, "*Gernsback has always accented the science part of science fiction rather than the fiction, holding these stories to be practical means of conveying scientific facts with slight sugar-coating of fiction, interesting young readers in scientific careers, and stimulating the minds of scientists and inventors. He objects to giving the name 'science fiction' to stories like Burroughs' Martian tales, wherein one badly worked out pseudoscientific assumption is used merely as a peg on which to hang a picaresque adventure-romance.*"

IT SEEMS apparent that Hugo Gernsback, in his appraisal of what constitutes science fiction and what it should accomplish, thought brain-to-brain with the greatest of all science fiction authors, Jules Verne. No one can read "*Twenty Thousand Leagues Under The Sea*," "*Mysterious Island*," or any of Verne's other science fiction stories, without learning a bit of science, besides being excitingly entertained. It must be remembered, however, that some of Verne's novels, such as "*Around The*

World In Eighty Days" and "*Michael Strogoff*" cannot properly be classified as science fiction.

That many people became interested in scientific or engineering careers because they read stories by Verne, Wells, Gernsback, and other authors of real science fiction, when they were young, is a well-known fact. Furthermore, it would be difficult—perhaps impossible—to name a single modern invention which was not first conceived by a science fiction author. Not all inventors or scientists who have made important discoveries, which have benefitted mankind and advanced civilization, have been willing to admit their indebtedness to the authors who gave them the ideas on which to base their work, but some of them have been honest enough to do so.

The inventor of the submarine, Simon Lake, started his autobiography with this sentence: "*Jules Verne was the director general of my life.*" Marconi, originator of wireless communication; Claude, who gave us neon lighting; La Cierva, inventor of the first practical helicopter; Piccard, balloonist and deep sea explorer; Admiral Byrd, who flew across both poles; and many others, gave credit to Verne for starting them thinking

along scientific lines. It is unlikely that the authors who wrote real science fiction would have had so much influence on modern inventions and discoveries if they had not written their seemingly fantastic stories plausibly, as well as interestingly.

Regarding verisimilitude in science fiction, an interesting comment was made by Olaf Stapledon in his preface to "*Last And First Men*".

"I have undertaken to invent a story which may seem a possible, or at least not wholly impossible, account of the future of man."

Aristotle expressed a somewhat similar thought when he said, "*Better a probable impossibility than an impossible probability.*"

AMONG THE other definitions which de Camp quotes in his "Handbook" is this one, which he credits to Dr. Oscar Brauner: "*Science fiction deals with the sciences and their impact on man in a fictitious way.*" While this is not as bad as the definitions which confuse science with fantasy, it is far from satisfactory because it includes literature to which the designation "science fiction" cannot correctly be applied. For instance, Sinclair Lewis's "*Arrowsmith*" deals with the science of bacte-

riology and its impact on the life of a medical student, and on the lives of those whom his research work benefitted; but it certainly is not science fiction. Psychological novels and psychiatric yarns such as Henry James's "*The Egoist*" and Herman Wouk's "*The Caine Mutiny*," deal with the science of psychology and its impact on human beings in a fictitious way, but no enlightened person would call them science fiction. Thousands of similar examples could be given to prove that Dr. Brauner's definition is inadequate.

A few times, during my frustrating search for an acceptable definition of science fiction, I ran into this one: "*Science Fiction: Any story printed in a science fiction magazine.*" That is reminiscent of the hoary vaudeville gag: "If a cat had kittens in a stove oven would they be biscuits?" Surely no intelligent person believes that all stories published in so-called "Science Fiction" magazines actually are what they claim to be—any more than all the contents of so-called "comic books" are comic or all "true confessions" are true. And what about science fiction published in "slick" magazines, or in book form, or original science fiction plots of motion pictures, television programs and radio broadcasts?

Must they be excluded from the category because they were not published in science fiction magazines?

A n o t h e r misconception which seems to be prevalent is that any story becomes science fiction if its setting is in the remote future, or the remote past, or in a remote portion of interstellar space. It should not be necessary to point out that disguising the plot of a western, detective, adventure, or sex story by doling up the hero in a space suit, arming him with a disintegrator instead of a gun, and sending him in a spaceship to a sun hundreds of light years away (where human beings could not possibly survive)—or shifting him backward or forward in time (which no author has ever been able to rationalize convincingly)—does not transform it into science fiction. Nevertheless, a large number of the stories which have been published in some science fiction magazines during the past few years contain no original scientific ideas whatever, and really are rehashed westerns, whodunits or sex tails (pardon me for intentionally misspelling that word) which could just as well have happened in America at the present time.

A SOMEWHAT similar criticism was directed against

science fiction by Bernard de Voto, author of the most unique—and certainly the most startling—definition of science fiction I have encountered during the many years I have been studying the subject. In his "Easy Chair" column, published by *Harper's Magazine* in September, 1939—eleven months after the "The War Of The Worlds" broadcast, de Voto announced that he had read a number of stories in current issues of so-called "science fiction magazines." (In 1939 there were no less than twelve science fiction magazines on the newsstands; some of them really were abhorrent.)

After summarizing the plots of several stories culled from these publications, Bernard de Voto commented as follows:

"This besotted nonsense is from a group of magazines known as science pulps. The science discussed is idiotic beyond any possibility of exaggeration; but the point is that, in this kind of fiction, the bending of light is like the sheriff of the horse opera fanning his gun or the heroine of the sex pulp removing her dress." Then came de Voto's definition: *"It is easy to classify these exhibits as paranoid phantasies converted into fiction for the titillation of tired, dull minds."*

How well I remember de

Voto's diatribe, and the ribbing which a certain has-been science fiction author had to take from his relatives and friends, right after it was published. At a Brown University Alumni banquet, one of my classmates, who reads *Harper's Magazine* regularly but loathes what he called "science fiction tripe," asked me if I had written any paranoid phantasies for the titillation of dull and weak minds lately. Fortunately, I had an alibi. My come-back was to quote from the variety routine of Weber and Fields, who were the Abbott and Costello of the "naughty-naughts." It is the stalest chestnut in the history of vaudeville, but it probably will be brand new to the younger generation of readers:

Weber: Didn't I seen you last Birthington's Washday in Peoria?

Fields: Couldn't be me. I neffer vas in Peoria.

Weber: I never was in Peoria neither. Musta bina coupla udder fellers.

Since no stories of mine were published during the year 1939, when I was a very sick man, de Voto could not have had me in mind when he wrote those flattering words. Musta bina coupla udder fellers.

INCIDENTALLY, if Bernard de Voto were alive today,

and if he were to make a survey of the science fiction magazines which have been published during the past few years, he would find many "space horse operas," "space whodunits" and "space sex tales" which do not even take the trouble to bend the light rays.

By having the sheriff fan his gun while riding in a space ship instead of on a cayuse; or the heroine shed her bra on Venus; or the private eye trail the murderer by traveling forward, backward or sidewise in time, the author can relabel any of his old yarns "science fiction" and sell them over and over again. He may be so dumb about mathematics and science that he thinks the slide rule was invented to prevent baseball players from spiking each other; that Algebra was the wife of Euclid; and that a spectroscope is an instrument for examining specters—but that need not prevent him from calling himself a science fiction writer and from getting his stuff printed in various science fiction magazines.

It might even be said that the less he knows about science, and the more he knows about such subjects as vampires, werewolves, zombies and witchcraft, the better chance he has of selling his stories to some science fiction magazines.

Although my painstaking research failed to disclose a single satisfactory definition of science fiction, I did find one which came close. It was contributed by J. O. Bailey in his *"Pilgrims Through Space And Time."*

"A piece of science fiction is a narrative of an imaginary invention or discovery in the natural sciences and consequent adventures and experiences. The invention must be imaginary at the time the romance is written. The discovery may take place in the interior of the earth, on the moon, on Mars, within the atom, in the future, in the prehistoric past or in a dimension beyond the third. It may be a surgical, mathematical or chemical discovery. It must be a scientific discovery—something that the author at least rationalizes as possible to science."

Bailey points out that this definition excludes novels that interpret character in the light of scientific fact, such as Huxley's *"Point Counter Point"*, and also "Utopias" and satires concerned solely with human nature, politics, economics, etc. It also excludes stories of occult and psychic manifestations.

Bailey adds: *"However, a science fiction story may attempt to anticipate new discov-*

eries, and their impact on human society."

WHILE THIS is the best definition of science fiction I have been able to find, it still is unsatisfactory, for at least two reasons: In Bailey's list of sciences on which science fiction might be based, he omits three which, in my opinion, are most important of all: astronomy, biology and physics. Furthermore, in his summary of suitable settings for science fiction stories, he includes two which no writer has ever "rationalized as possible," as his last sentence demands. Since it has been proved that the temperature of the Earth increases at the rate of 30 degrees Centigrade per kilometer of depth, and reaches the temperature of molten rock, (1200 to 1800 degrees Centigrade) at a depth of only 50 kilometers, it obviously would be impossible for human beings to penetrate for more than a short distance into the interior of the Earth and certainly not to the center of the Earth, which several authors have used as the locale for their stories. Men could not live within an atom either.

Stories such as these, which depend on unscientific assumptions that cannot be rationalized, belong in the realm of fantasy rather than science fiction.

Besides being counterfeited by "p h a n t a s i e s," "horror tales," "stories of the supernatural," "space westerns," "space whodunits," "space sex confessions," etc., science fiction is also frequently confused with "escape literature," so-called, because it is designed to give second-hand thrills to readers who like to be transported to a dream world where they can escape from life's dull and unpleasant realities. I have nothing against escape literature, which undoubtedly helps many readers to forget that their own lives are lacking in interest, excitement or achievement. Nor would I think of criticising buyers of magazines and books who read only for entertainment. They certainly deserve more credit than the vast numbers of Americans who, according to recent surveys, never read any books at all. However, I do object emphatically to calling science fiction "escape literature." While good science fiction is as entertaining, as exciting, and as thrilling as any other kind of narrative, it differs from escape literature because, in addition to being interesting, it also is educational, prophetic and inventive.

HOW THEN should science fiction be defined? Apparently, since a thorough study has disclosed no satisfactory,

authoritative definition, that question is still unanswered. Before attempting to compose a definition which is satisfactory, let us consider the attributes which distinguish valid science fiction, and which I believe make it superior to any other kind of literature. That, I realize, is a debatable assumption. Nevertheless, in spite of the blistering criticism which Bernard de Voto, Norbert Weiner, and many other eminent critics have directed at stories mislabelled "science fiction," I think it can be proved that genuine science fiction does have several unique superiorities.

It has previously been pointed out that practically all modern inventions were predicted, originated, and in many cases described convincingly, in stories which were regarded as fantastic when they were first published. In his "*Pilgrims Through Space and Time*", J. O. Bailey put it this way: "*A complete list of the inventions and discoveries described in science fiction would sound like a list of headings in the files of the patent office... Science fiction more or less anticipates every important modern invention and many that have not appeared.*"

It is also true that many of the Twentieth Century's great

scientists, discoverers and inventors, who have done so much to promote the health, welfare and happiness of mankind, originally became interested in scientific careers through reading science fiction.

WHY HAS human progress been so strongly influenced by genuine science fiction? Examination of the science fiction stories of Jules Verne, who originated this type of imaginative writing; H. G. Wells, the father of English science fiction; Hugo Gernsback, the father of science fiction in America; and the other authors, whose works were published in the early issues of the world's first science fiction magazine, reveals that most of them, besides being entertaining, possessed five additional advantages.

To qualify as *genuine* science fiction, a story should be:

1. *Scientific:*

It should be accurate and consistent from a scientific point of view.

2. *Educational:*

Science fiction should teach authentic science, clearly explained and understandable to any literate reader.

3. *Original:*

The theme should be new, not just a rehash of a stock formula. Since genuine science

fiction describes inventions which no one ever thought of before, it is one kind of fiction which really can be original.

4. Plausible:

Science fiction should be so plausible that it convinces the reader it actually could happen.

5. Prophetic:

Today's science fiction should anticipate the future, just as the best science fiction of the past anticipated practically all the inventions and discoveries which we enjoy now.

With these considerations in mind, I submit the following definition:

Science Fiction: A narrative about an imaginary invention, or discovery, which is possible in accordance with authentic, scientific knowledge and relates adventures and other happenings which might reasonably result from

the use of the invention or discovery.

During World War I, Bruce Bairnsfather became famous for his cartoons depicting episodes in the lives of an English private named "Old Bill" and his buddies. They helped not only the British Tommies but also millions of other freedom-loving people to laugh off their wartime troubles and anxieties. The most famous of these cartoons showed two soldiers who had taken cover in a shallow shell-hole, with bombs bursting all around them. The first soldier said, "This is a 'ell of a 'ole." Old Bill remarked, "If yer knows of a better 'ole—go to it."

So—if you who are now reading this know of a better definition of science fiction—go to it. And please, oh please! Won't you let the rest of us in on it?